



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 0 849 734 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
24.03.1999 Bulletin 1999/12

(51) Int. Cl.⁶: **G11B 20/00, G11B 23/28**

(43) Date of publication A2:
24.06.1998 Bulletin 1998/26

(21) Application number: **97122526.3**

(22) Date of filing: **19.12.1997**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• **Nerlikar, Virupax (Madhu)**
Plano, Texas 75023 (US)
• **Edenson, Roy I.**
Richardson, Texas 75081 (US)

(30) Priority: **20.12.1996 US 33543 P**

(74) Representative:
Schwepfinger, Karl-Heinz, Dipl.-Ing.
Prinz & Partner GbR
Manzingerweg 7
81241 München (DE)

(71) Applicant:
Texas Instruments Incorporated
Dallas, Texas 75251 (US)

(54) **Improvements in or relating to security systems**

(57) The invention consists of attaching or embedding a "TIRIS" transponder (or other RF or IR or bar-code or other identifying device) physically into the center of the proposed DVD disk. Once a disk is input to a media player, the interrogation portion of the media player transmits an interrogation signal to the transponder located on the disk. Once empowered with the interrogation signal, the transponder accesses the predetermined address, code word, encryption algorithms, media type information, and copyright information from its memory. Then the transponder transmits the address, the code word, encryption algorithms, media type information and copyright information to the interrogator, located within the media player, and the interrogator sends the transponder data stream to a conditional access management processor(CAMP).. Simultaneously with the processing action of the CAMP, the interrogator instructs the player to access the data_word at the predetermined address on the disk and the player accesses the data_word on the disk. The media player only plays if there is a match between the read data_word and received code word and the received algorithm correctly decrypts the content of the media prior to decoding.

EP 0 849 734 A3

Block Diagram of DVD Player (ROM Type for Published Media) + TIRIS cypher

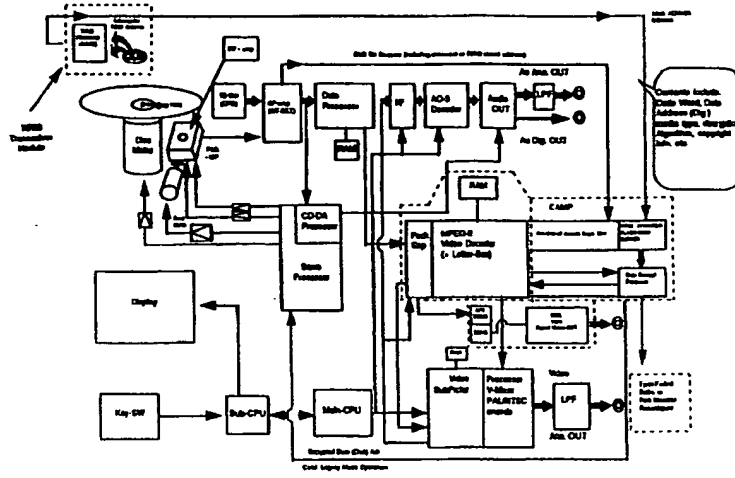


Figure 1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 97 12 2526

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 5 461 386 A (KNEBELKAMP MICHAEL) 24 October 1995 * abstract * * column 1 * * column 2 * * column 3, line 1 - line 49 * * column 4, line 37 - line 67 * * column 5, line 1 - line 8 * * figures 1A,1B,1C * ---	1,5	G11B20/00 G11B23/28
A	"TIRIS ZET AUTODIEVEN OP ZIJSPoor" POLYTECHNISCH TIJDSCHRIFT, ELEKTROTECHNIEK, ELEKTRONICA, vol. 49, no. 5, May 1994, page 7 XP000454909 * the whole document * ---	1,5	
A	US 5 287 112 A (SCHUERMANN JOSEF H) 15 February 1994 * abstract * * column 1, line 1 - line 25 * ---	1,5	
A	US 4 827 395 A (ANDERS FRANK W ET AL) 2 May 1989 * abstract * * column 1, line 50 - line 68 * * column 2 * * column 3 * * column 4, line 1 - line 14 * * column 6, line 25 - line 68 * * column 7 * * column 8, line 1 - line 45 * * column 11, line 6 - line 16 * * column 11, line 55 - line 68 * * column 12, line 1 - line 16 * * column 19, line 1 - line 37 * --- -/--	1,5	TECHNICAL FIELDS SEARCHED (Int.Cl.6) G11B G01S G06K G07C H04L
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 1 February 1999	Examiner Barel-Faucheux, C
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03/92 (P4/C01)



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 97 12 2526

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 5 499 017 A (BEIGEL MICHAEL L) 12 March 1996 * abstract * * column 1 * * column 2, line 1 - line 26 * * column 3, line 65 - line 67 * * column 4, line 1 - line 15 * ---	1,5	
A	US 5 430 441 A (BICKLEY ROBERT H ET AL) 4 July 1995 * abstract * * column 1, line 13 - line 45 * ---	1,5	
A	US 4 918 955 A (KIMURA TAKASHI ET AL) 24 April 1990 * abstract * * column 3, line 10 - line 34 * * figure 3 * ---	1,5	
A	US 5 245 332 A (KATZENSTEIN HENRY S) 14 September 1993 * abstract * ---	1,5	
P,A	EP 0 805 575 A (TEXAS INSTRUMENTS INC) 5 November 1997 * abstract * * page 2 * * page 3, line 1 - line 52 * * page 4, line 20 - line 59 * * page 5 * * page 6 * * figure 4 * --- -/--		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
Place of search	Date of completion of the search	Examiner	
THE HAGUE	1 February 1999	Barel-Faucheux, C	
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 (03.02) (P4/C01)



EUROPEAN SEARCH REPORT

Application Number
EP 97 12 2526

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A	US 5 450 087 A (HURTA DWAIN S ET AL) 12 September 1995 * abstract * * column 2, line 21 - line 68 * * column 3, line 1 - line 3 * * column 3, line 65 - line 68 * * column 4, line 1 - line 9 * * column 7, line 44 - line 47 * * column 18, line 51 - line 68 * * column 19, line 1 - line 14 * -----	1,5
		TECHNICAL FIELDS SEARCHED (Int.Cl.6)
The present search report has been drawn up for all claims		
Place of search	Date of completion of the search	Examiner
THE HAGUE	1 February 1999	Barel-Faucheux, C
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document		

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 97 12 2526

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

01-02-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5461386 A	24-10-1995	JP 8296354 A	12-11-1996
		US 5561430 A	01-10-1996
US 5287112 A	15-02-1994	EP 0674298 A	27-09-1995
		JP 7131376 A	19-05-1995
		US 5374930 A	20-12-1994
US 4827395 A	02-05-1989	US 4656463 A	07-04-1987
		CA 1249359 A	24-01-1989
		FR 2544867 A	26-10-1984
		GB 2141006 A,B	05-12-1984
		JP 60100294 A	04-06-1985
US 5499017 A	12-03-1996	AU 665797 B	18-01-1996
		EP 0615645 A	21-09-1994
		JP 7504771 T	25-05-1995
US 5430441 A	04-07-1995	NONE	
US 4918955 A	24-04-1990	JP 1737326 C	26-02-1993
		JP 4015141 B	17-03-1992
		JP 63093649 A	23-04-1988
US 5245332 A	14-09-1993	CA 1316268 A	13-04-1993
		DE 68928801 D	08-10-1998
		DE 68928801 T	14-01-1999
		EP 0347893 A	27-12-1989
		JP 2051931 A	21-02-1990
EP 0805575 A	05-11-1997	JP 10075241 A	17-03-1998
US 5450087 A	12-09-1995	JP 8084095 A	26-03-1996
		US 5686920 A	11-11-1997

EPO FORM P4499

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82